

## TAXONOMIC NOTES ON EVANIODINI (HYMENOPTERA: BRACONIDAE), WITH REDESCRIPTION OF *EVANIODES SPATHIIFORMIS* AND DESCRIPTION OF A NEW SPECIES<sup>1</sup>

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ABSTRACT: The monobasic *Pariodes* (Hymenoptera: Braconidae, Doryctinae, Evaniodini) is synonymized with *Evaniodes* Szépligeti, 1901, thus *P. spathiiformis* Szépligeti, 1901 is returned to *Evaniodes*. Redescription and illustrations of male and female *Evaniodes spathiiformis* are provided as well as a description of a new species, *Evaniodes marshi*.

The tribe Evaniodini (Hymenoptera: Braconidae, Doryctinae) was created by Fischer (1981) for two species described by Szépligeti (1901) from Brazil, and characterized by the elevation of the metasoma above the hind coxa. One of these species, *Evaniodes areolatus* Szépligeti, is known only from the female while the second species, *E. spathiiformis* Szépligeti, is known from the male and female. Szépligeti (1901) differentiated the two species primarily by the shape of the first metasomal tergite (T1) (4 times longer than wide in *spathiiformis*; 3 times longer than wide in *spathiiformis*) and by color (*spathiiformis* reddish-yellow with black head and antenna and bicolored wings; *areolatus* more extensively black with wings almost hyaline). Roman (1924) noted that both sexes of *E. spathiiformis* had a closed 1st subdiscal cell in the fore wing and lighter body color; the female was larger and the male had a more compact hind wing venation illustrated by him as from *spathiipennis*. He also described *areolatus* as being smaller than *spathiiformis*; with body color black with reddish-brown areas and the fore wing brachial cell more or less open.

Because of the pronounced differences between the two species, Fischer (1981) described a new genus, *Pariodes*, with *spathiiformis* (male) as its type and only included species. He did not mention the female used by Roman (1924). His redescription of *E. areolatus* indicates that the propodeum has a pentagonal cell and the hind wing has more complete venation compared to *P. spathiiformis*. Differences between the two include eye height in comparison to temporal height; clypeus height; notauli (rounded or straight, deep or not deep); venation of hind wing; fore wing 1st subdiscal cell open in *E. areolatus* and closed in *P. spathiiformis*; size of fore wing; T1 height versus apical width and size of the body.

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Belokobyl'skiy (1993) also treated these two species as being valid for the tribe Evaniodini and shows the following characters for the tribe: elevated abdomen; thorax short and swollen; notauli complete; sternauli not developed; propodeum with or without areola; fore wing 1st subdiscal cell closed; hind coxa with an antero-ventral basal tubercle; T1 pedicellate and T2 and T3 smooth. Marsh (1993) incorrectly included both *E. areolatus* and *P. spathiiformis* in the group of Braconidae with no antero-ventral basal tubercle on the hind coxa.

Based on the study of male and female specimens of *E. spathiiformis* and the male of a new species from Brazil, we propose to synonymize *Pariodes* Fischer with *Evaniodes* Szépligeti, thus returning *spathiiformis* to the genus *Evaniodes*. We compared male and female *Evaniodes* specimens with the descriptions in the literature and found the only difference between them was in the hind wing venation (Figs 1,2) with M+CU and cu-a meeting at junction of SC+R1, R1, SR and 2-M, with 1-M and r-m absent in the male and veins M+CU, 1-m and 1r-m distinct, SC+R1 reaching R1 before the middle of the wing in the female.

For the morphological terminology used in this paper, see van Achterberg (1993). The following abbreviations are used to indicate deposition of specimens: (INPA), Instituto Nacional de Pesquisas da Amazonia, Brasil, (INPA), Instituto Nacional de Pesquisas da Amazonia, Brasil, (MPEG), Museu Paraense Emílio Goeldi, Brasil, (DCBU) Departamento de Ecologia e Biologia Evolutiva da Universidade Federal de São Carlos, Brasil.

### *Evaniodes spathiiformis* Szépligeti, 1901

(Figs 1-4)

#### Female

**Head.**- 2.3 times wider than long, 1.5 times wider than mesonotum; occipital carina present; gena smooth, face height and width equal, possessing transverse striation; clypeus transversely striated, 2.5 times broader than height, rounded ventrally; face as broad as basal width of mandible; very large eyes occupying most of head; in lateral view, eye height 1.35 times greater than length and 3.6 times longer than gena; antenna length shorter than body length; antennae with 46 antennomeres; first flagellomere length 1.7 times longer than second, succeeding antennomeres gradually shorter and thinner, placodes evident.

**Mesosoma.**- Length 1.2 times longer than width; mesonotum 1.3 times wider than long; tegula trapezoidal; deep and light-crenulate notauli touching each other in rugose area at base of mesonotum, with accompanying sparse hairs; scutellar sulcus with 5 cross carinae; scutellum smooth with setae in apical area; propodeum smooth with no pentagonal areola and sparsely setose; pronotum smooth with posterior sulcus; mesopleuron smooth; sternaulus not deep, epicnemial carina present extending to medium area of mesopleuron; metapleuron with sparse hairs; metasternum large and long; hind coxa with weakly distinct antero-ventral basal tubercle; first tarsomere about 2 times longer than second, second 1.2 times longer than third plus fourth, fourth 2 times longer than third, fifth 2.5 times longer than fourth; apical tibial spurs short (1/6 of basitarsus) (Fig. 1).

**Fore wings.**- Not reaching end of metasoma; 6.4 mm in length; stigma moderately broad, 6.7 times longer than vein r; r almost as long as stigma width; 3-SR length 1.4 times longer than 2-SR vein; SR1 straight and 2.5 times longer than 3-SR; SR1 vein reaching end of wing; m-cu

straight and interstitial; 2b cell square-shaped; 2-CU1 length 2.8 times longer than m-cu; cu-a vein postfurcal; 4a cell closed at apex, vein CU1b present and distinctly meeting 2-1A; CU1a vein arising below middle of 4a cell (Fig. 2).

Hind wings.- Veins M+CU, 1-M and 1r-m distinct; SC+R1 reaching R1 before middle of wing; M+CU as long as 1-M; 1-M 2 times longer than m-cu; m-cu almost reaching posterior side of the wing (Fig. 3).

**Metasoma.**- Inserted high on the propodeum, distance between insertion of metasoma and hind coxa about equal in length to hind coxa; T1 long and thin, 3.3 times longer than apical width, apical width slightly longer than basal one; T1 striated only at apex; T2 striated and wider than long as well as remaining tergite; T3 striated at base and rugose at apex; remaining tergites smooth.

**Ovipositor.**- Much longer than body length.

**Color.**- Head black; mandibles yellow with apical area black; yellow palps; antennae brown; thorax fully yellowish; legs brown (only mesocoxa is yellow); metasoma with basal third light brown and apical area black; wing membrane infuscated, stigma and veins yellow.

Variation in female.- Head black with dark-brown gena and occiput; eye height greater (varying between 3.4 to 3.6) than gena; notauli very deep; 2 sulci in pronotum, dorsal smooth, ventral crenulated; apical width of T1 varying between 3.0 to 3.2 times longer than basal width; T2 and T3 fully striated with no rugose area; body length between 7.0 and 8.9 mm.

Variation in male.- Clypeus 1.7 to 2.25 broader than its height; eye height 2.3 to 3.1 longer than gena, 2.3 to 3.1; wings (Fig. 4) slightly longer than body, between 6.4 to 7.1 mm; in hind wing veins 1-M and r-m absent, M+CU and cu-a meeting at junction of SC+R1, R1, SR and 2-M; T1 3.8 to 4.3 times longer than its apical width; body length 6.0 to 7.4 mm.

**Distribution.**- Known only from Brazil : Belem (Para State), Manaus (Amazonas State), and Mato Grosso State.

**Material examined.** 1 female (INPA), "Est. Cemat. R. Humb. MT, 26.IX.1975"; 1 female (MPEG), "Amazonas, Manaus, 1Km W Taruma, Falls, 14.II.1981, 100 m G. Okis, primary forest"; 1 female (DCBU), "Reserva Ducke, Manaus, Amazonas, E.V.Silva & A. Faustino, 3. V. 1968", 1 male (INPA), "Est. Am 1, Km 101, Mn.Am., Brasil, V. 1968, col. several"; 1 male (MPEG) "Brasil, Pa, Belem, Mocambo, 31.VIII.1986"; 1 male (DCBU), "F. Esteio, Res. 1112, Manaus, ZF3, Km 23, B. Klein, col., 3. I. 1986".

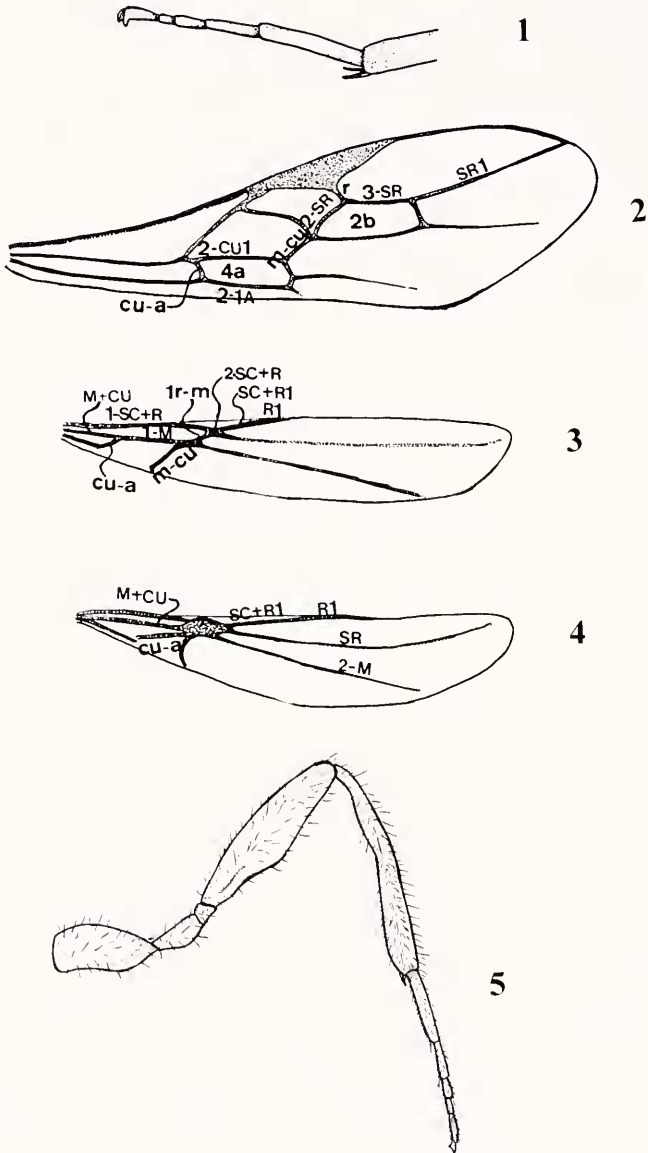
### *Evaniodes marshi* Barbalho & Pentead-Dias SPEC. NOV.

(Fig. 5)

#### Male

**Head.** - with many hairs; 1.5 times longer than wide, 1.5 times wider than mesonotum; occipital carina present; gena smooth, face height and width equal, possessing transverse striation; clypeus transversely striated, as broad as long, straight ventrally; face as broad as mandibular base width; very large eyes occupying most of head; in lateral view, eye height 1.2 times greater than length and 3.6 times longer than gena; first flagellomere length 1.9 times longer than second, succeeding antennomeres gradually shorter and thinner.

**Mesosoma.**- Length 1.6 times longer than wide; tegula elliptical; shallow and light-crenulate notauli not touching each other at base of mesonotum, with accompanying sparse hairs; mesoscutum smooth and shining; scutellum smooth with setae in the apical area; propodeum rugose with no pentagonal areola and with many hairs; mesopleuron smooth, with many hairs, as well as middle coxae; sternaulus absent, epicnemial carina present extending to medium area of mesopleuron; metapleuron with many hairs; hind coxa without an antero-ventral basal tubercle; first tarsomere about 2 times longer than second, second as long as third plus fourth, fourth 2.4 times shorter than third, fifth 2.1 times longer than fourth; apical tibial spurs short (1/6 of basitarsus); hind femora with a large blister like swelling anteriorly near base (Fig. 5).



Figures 1- 4. *Evaniodes spathiformis* .1, female, hind tarsus; 2, female, fore wing; 3, female, hind wing; 4, male, hind wing.

Figure 5. *Evaniodes marshi* spec. nov. .male, hind leg.

**Fore wings.**-Not reaching end of metasoma; 5.7 mm in length; stigma moderately broad, 4.6 times longer than vein r; r shorter than stigma width; 3-SR as long as 2-SR vein; SR1 straight and 2.5 times longer than 3-SR; SR1 vein reaching end of wing; m-cu straight and joining 2M before 2RS; 2b cell square-shaped; 2-CU1 length 2.6 times longer than m-cu; cu-a vein postfurcal; first subdiscoidal cell closed at apex, vein CU1b present and distinctly meeting 2-1A; CU1a vein arising below middle of 4a cell.

**Hind wings.**- Veins 1-M and r-m absent, M+CU and cu-a meeting at junction of SC+R1, R1, SR and 2-M.

**Metasoma.**- Inserted high on propodeum, distance between insertion of metasoma and middle coxa about equal in length to middle coxa; T1 long and thin, 2.7 times longer than apical width, apical width slightly longer than basal width; T1 striated only at apex; T2 striated and wider than long; T3 striated; remaining tergites smooth.

**Color.**- Head black; mandibles yellow with apical area black; yellow palps; antennae black; thorax fully black; fore and middle legs yellow (except middle coxa brown), hind legs dark brown; metasoma brown; wing membrane lightly infuscated, stigma and veins brown.

**Material examined.**- Holotype, Brazil, Amazonas, Jurua, Mineruazinho. 1 male, 25/1/96 (deposited in INPA). Female unknown.

**Etymology.**- Named for Paul M. Marsh because of his contributions to the knowledge of Doryctinae wasps.

#### Key to species of *Evaniodes*.

- 1a- Propodeum with a pentagonal cell; 1st subdiscal cell open ..... *E. areolatus* Szépligeti  
 1b- Propodeum without a pentagonal cell; 1st subdiscal cell closed. .... 2.  
 2a- Body fully black and with many hairs; hind femora with a blister like swelling anteriorly near base (known only from male) ..... *E. marshi* spec. nov  
 2b- Body fully yellow and with sparse hairs; hind femora without a blister anteriorly near-base ..... *E. spathiiformis* Szépligeti

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